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**Ding et al.**

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(54) **ONE OPTICAL DESIGN PATTERN/METHOD OF A COST EFFECTIVE IR LENS**

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CPC ..... **G02B 3/0062** (2013.01); **G02B 1/00** (2013.01); **G02B 3/04** (2013.01); **G02B 5/1876** (2013.01);  
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(58) **Field of Classification Search**

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(57) **ABSTRACT**

An optical design pattern/method was invented to control the total cost including the material and the manufacturing of IR imaging lenses. This optical design pattern/method comprises a molded lens and an aberration correction lens. This design pattern/method leads to cost-effective IR imaging lenses because the unit cost of the molded lens is low for a volume production and the unit cost of the aberration correction lens is low for its very small manufacturing. This optical design pattern/method comprises any imaging and spectral applications for any partial band of 1 to 14 micron, such as (but not limited to) SWIR, MWIR, and LWIR.

**21 Claims, 8 Drawing Sheets**

